The
WOOD DUCK

VOL. 13 NO. 5 JANUARY, 1960.

MUSHROOMS

HAMILTON NATURALISTS' CLUB

By Dr. J. J. Miller

To our ancestors in past ages mushrooms were the objects of much puzzled speculation. While superficially plant-like, these ephemeral inhabitants of wood and meadow had a number of apparently unnatural features; they grew and multiplied without benefit of roots or seeds; they commonly sprang from invisible beginnings to maturity in a single night; and even more mysteriously, a group of them occasionally emerged from the soil arranged in a perfect circle. It is no wonder that they were often thought to be created by fairies, goblins, or witches. But this did not prevent recognition of the fact that many kinds are valuable as food, and for centuries man has used them to improve his usually inadequate diet. Though nowadays we do not concern ourselves about any supposed magical properties of mushrooms, their nutritional importance is still considerable and may even rise in years to come as increasing populations outstrip our major food supplies. For this reason, as well as for the satisfaction that comes of understanding better an interesting group of plants, it is worthwhile learning the essentials of the mushroom's life and activities.

Perhaps activity seems an inappropriate word to use with reference to these quiescent-looking little plants, but when we examine the successive developments that they go through when growing up, we see that their lives are by no means so quiescent or peaceful as may appear.

To begin with, during its short life span of less than a week the average-sized mushroom produces about 15 billion spores and launches them into the passing breezes. So profusely are the spores produced that if you put a mushroom under a glass jar in the dark and shine a strong beam of light beneath it, you will see a steady rain of minute particles falling from the cap. The spores bud out from the hundreds of millions of cells covering the gill surfaces. When they reach full size, some little-understood force shoots them a distance of about one five-hundredth of an in ch between the gills. As the gills are always quite vertical the spores fall slowly through the spaces into the open air.

The spores are very light and can be carried for many miles by the wind. On the other hand, they tend to be rather delicate, so that prolonged exposure to dry air or to the ultraviolet rays in sunlight can be fatal. Dull, wet weather is ideal for the spread of mushroom spores. If a spore is so lucky as to land still alive in a moist sheltered spot, it germinates producing a threadlike tube that slowly grows with repeated branching. But at this stage security has by no means been achieved. Its life may be extinguished by the attack of parasitic organisms, or there may be insufficient food for further development. Even if a food supply is available, the young mushroom plant may not be able to obtain enough owing to intense competition from other

soil-dwelling fungi and bacteria that teem in huge multitudes in all good soils. If lucky, the threads continue to grow, usually joining up with others of the same kind, and form the mycelium. This is an extensive network of branching threads that vary in thickness, depending on the species, from shoestring-size to filaments of such fineness that one needs a microscope to see them. It constitutes the vegetative mushroom plant that lives and feeds unseen for years in the soil, from time to time pushing up the fruiting bodies we call mushrooms, the sole function of which is the hopeful launching of another generation of spores. During its lifetime the mushroom plant produces many billions of spores, but so great are the hazards that intervene between the spore and the adult that very few or perhaps none succeed in establishing new vegetative plants.

When a mushroom mycelium happens to start growing in a field or meadow without much competition from other such mycelia, it spreads in an ever-widening circle. During periods of favourable moisture and warmth it sends up fruiting bodies and a "fairy-ring" is formed. Even if no mushrooms are present we can locate the advancing mycelium by looking for a ring of dark green luxuriant grass growth inside of which is a narrow zone of poor growth. The latter was once believed to result from wear by the feet of fairies dancing in a circle, but we now know that it is the point of densest mycelial development which damages the roots in some way, perhaps by competing for water. The luxuriant growth probably represents stimulation by nitrogen released from dead plant remains at the advancing edge. By measuring the average advance per year (usually six to twelve inches) one can make a fair guess at a ring's age. It is not unusual to find rings one hundred years old, and careful study has shown that some must be 400 to 600 years old!

One mushroom species (Armillaria mellea) has increased its chances of successful reproduction through acquiring the ability to cause disease in plants. When the mycelium advancing through the soil encounters a root of a susceptible plant species it penetrates to the soft under-bark and slowly spreads to the main roots and stem. The dense mycelial development interferes with normal functioning of the plant and it gradually dies. Woody plants are the chief victims, espe cially pine, larch, and oak although strawberry, potato, tomato, carrot and rhubarb may also suffer. Orchards planted on newly-cleared lands are often killed in a year or two by the "mushroom root-rot". The disease can be recognized by abundant development of characteristic mushrooms at the base of affected trees. An interesting feature of Armillaria mellea is that its mycelium tends to be luminous and thus wood permeated by its mycelium sometimes glows in the dark.

Another method whereby mushroom plants evade the fierce competition for food that prevails among the inhabitants of the soil is through going into partnership with trees. Many forest trees, especially conifers, are not so rugged and independent as they appear, because their roots receive important help in absorbing nitrogen and other minerals from the soil. This is provided by the mycelium of mushrooms (or sometimes of other fungi) growing over the surface of the roots. The mycelium in exchange receives food from the tree for use in growth and in producing its fruiting bodies. This is why some mushrooms are most often found growing near trees, for example, species of Amanita, Russula, Boletus, Lactaria and some other genera.

Most mushroom fungi, however, lead independent lives, feeding on f allen logs, dead roots and leaves. In company with other fungi and bacteria they form nature's great scavenger corps which performs an invaluable service for all living things by decomposing dead plant material. The minerals that plants absorb from soil are thereby freed once more for the nourishment of succeeding generations, and the carb on that has been consumed to form the varied array of chemical compounds essential for plant life is released into the atmosphere to be used again in photosynthesis. If this scavenging activity were to cease, within a few hundred years the forests would be choked up with dead vegetation, fields would be less productive, and life for the green plants and ourselves would have become exceedingly difficult, perhaps impossible. In return we surely can forgive the scavengers for the inconvenience they cause us by rotting railway ties, fence posts, telephone poles, etc.

Man's chief interest in mushrooms is, and probably always will be, as a source of food. The practise of eating wild mushrooms is far more prevalent in Europe than in North America. In some areas such as the Baltic countries they form an important part of the diet of the poorer people. In Canada we have many kinds of edible wild mushrooms but few of us trouble to collect them. For one reason, there is no generally prevalent tradition of mushroom lore, and for another, fear of being poisoned makes the average Canadian quite content to buy his mushrooms in the supermarket. And, indeed, the very real danger of poisoning requires that you proceed with the greatest caution if you decide to go out and pick your own. Never put the slightest faith in rule-of-thumb tests for distinguishing good from bad. It is often claimed, for instance, that a silver spoon placed in the pan in which mushrooms are cooked turns black if they are poisonous. But Amanita phalloides doesn't blacken a silver spoon, and it is our most poisonous species! The beginner should get a good introductory handbook such as Clyde M. Christensen's "Mushrooms", and eat only those kinds that can be unquestionably identified by following the keys and descriptions given. Dr. Christensen recommends commencing with what he calls the "Foolproof Four" - puffballs, morels, sulphur polypores and shaggymanes. Incidentally only the last named is a true mushroom. Anyone can safely recognize these with the book and from this start pass on to others less readily identified. But always, whenever the slightest doubt exists don't take a chance. Symptoms of mushroom poisoning often do not start until 10 or 12 hours after they have been eaten, and it may then be too late for successful medical treatment.

Poisonous mushrooms are commonly lumped together as "toadstools", implying that the good and the bad form two large and clearly distinct groups. This is far from the truth. For instance, the genus Amanita contains edible as well as poisonous species which can be distinguished only by expert examination, yet they are obviou sly much more closely related to one another than to edible and poisonous species in other mushroom genera. The term "toadstool" is vague, indefinable and unnecessary, and should not be used by the naturalist.

As wild mushrooms are seasonal and uncertain in their development, the practise of cultivating mushrooms began, particularly in France, where certain caves in and near Paris were found to have the ideal temperature and moisture for the purpose. Mushroom raising did not commence in the United States until about 1888, but since then it has expanded into an important industry; nowadays 30,000 tons are grown there annually. The favourite mushroom food was horse manure, properly composted, made into beds in caves or damp sheds, and sown with mycelium or "spawn" of Agaricus campestris. With the passing of the horse other more expensive types of compost have been devised, which in part accounts for the increase in price of mushrooms in the past few decades.

Are mushrooms as nutritious as other kinds of food? They compare well with many vegetables in regard to their mineral and protein content. Experiments with rats have shown that the nutritional value of mushroom protein is approximately equivalent to most vegetable protein, but less nutritious than milk protein. When rats were given mushrooms as sole source of protein, they gained weight one-third as fast as when fed milk protein. Mushrooms are quite low in vitamins A and E, but are one of the best plant sources for members of the B-vitamin complex.

Because of their varied forms, colours, habitats and activities mushrooms are an unusually interesting group of plants. Though many are easily identified, some groups present a real challenge and their members cannot be distinguished without patient study. Perhaps as a consolation most mushroom manuals end with an appendix of well-tested recipes for cooking different species. And what other group of plants can offer such a reward to the tired naturalist returning home after a day in the field?

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..... and now you know.

The Red Fox is reddish-yellow with black legs and feet and a long bushy tail that is tipped with white. His footprints may be recognized by observing that he places his hind feet in the tracks of his forefeet.

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Tracks of a squirrel in the snow show the forefeet pla ced side by side like other "bounders" that climb trees.

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Foot prints of a rabbit in the snow show the forepaws to be placed diagonally in front of each other.

NEW BOOKS FOR CLUB MEMBERS

AT THE

HAMILTON PUBLIC LIBRARY

By Annie J. Hunt

Animals in various countries are featured this month. "The aborigines of northern Australia sing a legend which they call the Snake-song. It is the song of Old Man Nargorcor and his rainbow serpents, and how, in the Dreaming, they went on a great walk-about to create the things on earth." In Song of the Snake Eric Worrell tells the story of a walkabout and it is a true Snake-song, a fascinating account of his adventures in the Northern territory of Australia. There are exciting chapters on crocodile hunting, buffalo hunting, capturing eagles and hawks for falconry and collecting specimens of reptiles and fish for museums in Southern Australia. The author founded the Ocean Beach Aquarium, a unique reptile research center. The book contains interesting native legends and includes photographs.

The scene of Elephant kingdom, by H. N. Marshall, is laid in the Northern jungles of Siam. It is a personal tale of the author's seven year career as a European teak wallah. Vast herds of elephants are indispensable to the teak industry. These well-written memories of strange customs and enthralling incidents will appeal to all who love travel and natural science.

The elephant also has an important place in the beautiful work of art, entitled Animals in India by Yilla, the famous woman animal photographer. Unfortunately, while in India photographing the animal life of this vast country, Yilla lost her life. This volume is a superb collection of her pictures, many in colour, and gives as text notes she made during the seven months there. Explanatory captions accompany each picture. It would make an excellent Christmas gift for those interested in animal behaviour. A few years ago her work Animals in Africa was published.

Life under the microscope is another wonderful treasury of worthwhile illustrations, some 461 of them. Otto Jirovec, B. Boucek and J. Fiala selected them and Margaret Schierl translated the running captions. It is a lovely presentation of the invisible world around us as seen through one of the most important inventions in the field of optics in the seventeenth century, the microscope. Chapter one tells how the pictures were taken. Then there are photographs of microscopic images of some inorganic substances such as salt, cellular structures of living organisms, bacteria and viruses, algae, moulds, fungi and lichens, mosses, ferns and horsetails, the structure of seed plants, sponges, the worms and others. This is a scientific and aesthetic book of observations.

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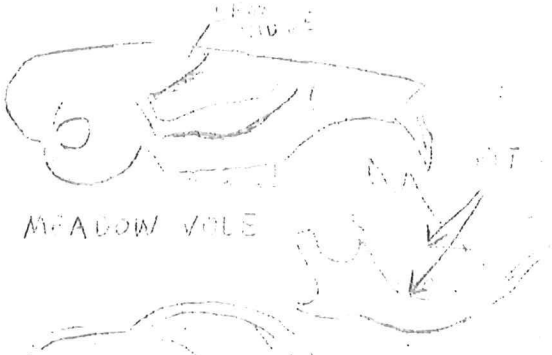
.....and now you know.

The Deer Mice or White-footed Mice (Peromyscus) are good climbers. They may occupy a "skyscraper" home in the abandoned nest of a Downy Woodpecker.

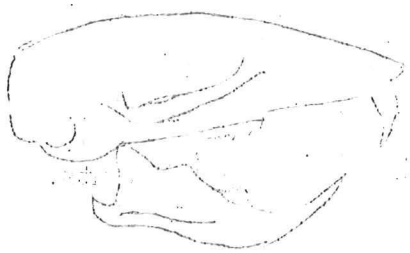
MOUSE SKULLS (over 2x natural size)



MEADOW VOLE

RED BACKED VOLE

BOG LEMMING MOUSE



OWL PELLET
(ACTUAL SIZE)

THE ANALYSIS OF OWL PELLETS

By Robert Bateman

This is the season for skiing, skating and finding owl pellets. What is an owl pellet? Owls, unlike many beasts of prey swallow their food whole, rather than picking the meat from the bones. By far the commonest food is mice. When the whole mouse has had all of the digestible parts digested, the bones are rolled into a sausage shape, surrounded by fur and the "pellet" or "casting" is regurgitated. It is usually light grey in colour.

Why is the winter time the best time for finding these pellets? Owls usually roost for a long time in one spot in winter. It is often one particular tree in a grove of conifers. Also, in winter, the pellets will be quick frozen and a whole winter supply will be perfectly preserved.

Why bother hunting for owl pellets? First, if you find a supply of them you have probably found an owl roost and have the pleasure of observing an interesting bird. Second, if you analyse the pellets you can get a good idea of the owl's diet and throw some light on the relative abundance of various mice. Do not be squeamish about picking the pellets apart. They contain only fur and white bones. On winter hikes, in coniferous woods, many naturalists spend most of their time watching the ground for pellets and analyse them on the spot. If you are not expert, you may want to take them home to identify the contents.

The only part of the pellet that is useful for identification is the skull. This is the surest way to identify any small mammal. Each pellet should contain a skull. Here is a summary of the superficial identification points. Teeth details are positive but complicated.

Meadow Vole or Field Mouse - By far the most likely in an owl pellet. Heavy-boned and flat-headed, orange incisors, a brow-ridge and high cheek bone. The lower jaw has a pit between the molars and the bone. No others have this.

Red-backed Vole - Unlikely south of Haliburton, Muskoka area. Fairly chubby, slightly rounded, only slight brow-ridge.

Bog Lemming Mouse - Rare. Like a stubby Meadow Vole but with longitudinal groove down the outer edge of the incisors. No others have this.

Deer Mouse, or White-footed Mouse - Second commonest mouse in owl pellets. A delicate skull, round-headed with lower cheek bones and no brow-ridge. Palate slits extend almost back to molars.

House Mouse - Unlikely in a woods. Small, delicate. Palate slits extend just beyond the front molars.

Sometimes remains of birds, insects and fish are found in owl pellets but are not easily identified.

BIRD-WATCHING BY CAR - NOVEMBER 14th, 1959

By W. W. Gilman

Being a somewhat lazy bird-watcher, I have always done a lot of mine by car and it is really surprising what can be accomplished. Of course, you have to have a car you don't care about keeping clean. It is best to stick to the dirt roads where you are less likely to be knocked into a cocked hat when you stop suddenly. Even then, it is wise to take a look behind before stopping and halt well out of the way of possible traffic.

Well, this particular Saturday, I went first to the parking area at Princess Point and spent a good hour watching ducks, grebes, gulls, herons, a Kingfisher and even two shore bird types. George North appeared for a short time but he had all the birds named in quick order and went looking elsewhere. I had to study my Peterson at greater length; but you can do that nicely in a car, even when it is raining, as it was that day.

Then to the Valley Inn on the Snake Road where more of the same were seen. A short jaunt up the side road on the west of the inlet (in the car) added a Downy and some unidentified sparrow.

Proceeding to the height above Carroll's Point in the new cemetery, gave me two branches of the Merganser family, a Scoter, Goldfinch, and Chickadee. From there to La Salle Park dock where Canada Geese were seen.

I had to take to the pavement then to get to Bronte, stopping at the Canadian Canners Plant in Burlington and the "Pig and Whistle" to look out over the lake. Golden-eyes, Old Squaws and Buffle-heads were plentiful everywhere.

I lunched at a small restaurant and then went back country on Walker's Line to add two species of hawks--Red-tailed and Rough-legged,--and a Shrike. The back country gets rather rugged, what with outcroppings, hills, valleys and streams everywhere. In the summer Turkey Vultures may be seen almost any day.

One doesn't see many of the smaller birds at this time of year when driving but I was able to add a Hairy Woodpecker, Juncos and Tree Sparrows, as well as a solitary Robin. I saw Starlings and English Sparrows, also! All in all I observed some 37 different bird species that day and arrived home warm and dry after getting lots of fresh air on a very dull and rainy day.

Editor's Note: Mr. Gilman's "method" sounds practical and comfortable. Actual observation beats the sometime tedium of the armchair. We trust, as Mr. Gilman suggested that his account will bring forth "other contributions to help with "The Wood Duck".

J.P.

-/TRIP TIPS/-

QUETICO VOYAGEURS

By R. N. Lowes

In 1857 the Canadian Government appointed a civil engineer, Mr. S. J. Dawson to explore the wilderness between Port Arthur (then known as Dawson's) and the Saskatchewan border. In 1868 he was again employed to open the Dawson route from Lake Superior westward 450 miles to Winnipeg and in 1870, this route was used to transport troops from eastern Canada to suppress the Red River Rebellion led by Louis Riel at Fort Garry. A few years later it was abandoned.

Even before this time,--back in the middle of the 17th century, hardy French-Canadian Voyageurs were transporting trade goods from Montreal to the great central depot at Grand Portage near the mouth of the Pigeon River at the western end of Lake Superior. Such men as Radisson and Groseilliers, La Salle and La Verendrye, De Noyon and Du Lhut re-transported the trade goods westward through the trackless wilderness to return with bales of beaver pelts for the insatiable fur trading empires,--Hudson's Bay Company, the North West Company and John Jacob Astor's American Fur Company.

Today, one can still capture a little of the spirit of pioneering adventure which permeated the Voyageurs of old by retracing their canoe routes - by visiting Quetico Provincial Park. Here, about 100 miles west of Fort William, is an area of 1,190,400 acres (68% as large as Algonquin Park) with a veritable maze of over 1000 lakes and waterways - a canoeist's and a naturalist's wonderland. Quetico lies right on the route of the Voyageurs, right on the route of S. J. Dawson.

Modern Voyageurs can enter Quetico by going up the old Gunflint trail or by travelling first to Ely on the American side. Most Canadians, however, just drive west from Fort William to the Government Camp at French Lake and take to the water from there. If a route is planned to take in a few healthy portages into the chains of smaller lakes, the "outboards" will be left behind, peace and tranquillity will be yours,--and adventure, too.

Lying in clear shallow water near a portage, we discovered an ancient barge, perhaps 10' x 30' x 5", probably sunk almost 90 years ago,--a reminder of that great humbling expression "this too shall pass away." We took a picture!

We remember, too, a family of otter that suddenly appeared before us standing vertically as high as possible in the water to see the strangers, giving excited barks, then slipping below the surface; an osprey, wheeling in flight; an Arctic Three-toed busily debarking a branch right next to our tent; beaver leaving long, silvery V's in the water as they moved quietly along in the moonlight; the freshly wolf-chewed bones of a deer 50 yards behind our tent, on an island!; ravens croaking in the best Edgar Allan Poe tradition; and old man's beard, mushrooms, pancakes and maple syrup, thirty campfires, racing the wind and waves to shore, and a convention of loons talking in loud excited voices about the approaching storm and deciding to take off in all directions for smaller, quieter harbours.

This winter, I'll take out my slides and have another look at the magic of Quetico, and someday, maybe I'll go back!

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-/ THE SIGNPOST /-

We wish that The Signpost for January could be illuminated like a neon sign or a last month's Christmas tree. However, we shall have to rely on your close attention and your kind cooperation in our initial plea:

! AUX ARMES NOS CITOYENS !

The need for volunteers to help with two major projects now under consideration is URGENT. If you can read, type, print or write a legible script, would you assist in the mailing of (1) Entry Forms for the FIRST ANNUAL INTERNATIONAL EXHIBITION OF NATURE PHOTOGRAPHY. (2) Programme of Club Activities - a printed programme for the HAMILTON NATURALISTS' CLUB which must receive wide distribution to fulfill its purpose. This is a temporary emergency, a bit drastic to contemplate, but like Mr. Lowes' ancient barge, "this too shall pass away"! We need about fifteen doughty scribes. Could one be you?

JANUARY MONTHLY MEETING

MONDAY, JANUARY 11, 1960, 8.00 P. M.

JUNIOR CLUB TO ENTERTAIN SENIOR CLUB

Each year the Junior Naturalists' Club presents a programme of displays and talks for the Senior Club at the January meeting. This annual event causes great excitement among Junior Club members, as it will climax a year of competition in bird-watching. The Ross Thompson Trophy will be awarded to the individual with the high count of the year. Other awards will be given for runners-up and for those competitors 14 years and under.

Several excellent speeches will be delivered by our young people. There will be talks on hobbies and aspects of nature, also displays of nature collections, hobbies and paintings arranged in the Lecture Hall.

Juniors and Seniors, let our enthusiasm be mutual!

Your Signpost:

Lecture Hall,
Hamilton Public Library,
55 Main Street, West,
Hamilton, Ontario.

AUDUBON SCREEN TOURS

ROGER TORY PETERSON

"Wild America"

THURSDAY, 21 JANUARY, 1960

WILD AMERICA - a personally conducted tour around the perimeter of our continent by one of the great naturalists of our time, Roger Tory Peterson. Famed as artist, author and lecturer, Dr. Peterson presents his own brilliant colour film---from Newfoundland to Florida, Texas, Mexico and north to Alaska.. the wildlife that remains today of the original wild America.

Your Signpost:

Auditorium,
Westdale Secondary School,
Hamilton.

For Tickets: Mrs. W. Braden,
Waterdown P. O. Ontario.
MU. 9-4975.

FIELD EVENTS

Friday, January 1, 1960 - NEW YEAR'S DAY HIKE

New Year's Day hike around the Bay - and wherever the birds are. Bring lunch.

Your Signpost:

Time: 10.00 A. M.
Place: Low Level Bridge.
Leader: Mr. R. N. Lowes,
(FU. 5-9183).

Saturday, January 10, 1960 - WINTER DUCK CENSUS for the WILDLIFE SERVICE

Your Signpost:

Time: 10.00 A. M.
Place: Meet at High Level Bridge.
Leader : Mr. G. W. North
(JA. 2-6082).
Caution: Bring lunch.

Sunday, January 31, 1960 - AUTO TRIP TO NIAGARA FRONTIER

Auto trip to Niagara Frontier to see Canvasbacks, Redheads, Ringnecked and perhaps a Harlequin. Bring a lunch.

Your Signpost:

Time: 9.00 A. M.
Place: Meet at Main and Ottawa Streets.
Leader: Mrs. Jeannette McCormack,
(JA 2-5887).

JUNIOR CLUB NEWS

EXECUTIVE

President	Ralph Idema	FU. 3-6411
Vice-President	John Miles	JA. 2-6160
Secretary	Caroline Lawson	MA. 8-8135
Vice-Secretary	Norma Allewell	MA. 8-6406
Records Secretary	Nan Coolsma	JA. 9-6290
Study Area Director	Jim Morrow	LI. 5-9311
Representatives (for those under 14 years)	Marina Idema	FU. 3-6411
	Alfred Senior	LI. 8-1442

EVERY MEMBER BRING A FRIEND TO THE CLUB

We hope that many girls and boys in and near Hamilton will hear about the fun that we have in our meetings and on our hikes. Every outing is an adventure! We discover something new every time, if we watch and listen. Membership is just a dollar for the whole year and includes nine editions of the "Wood Duck". Bring a friend to see what wonders there are in nature--the living animals and plants, the fossils, the minerals and the stars.

CHAMPION BIRD-WATCHER FOR 1959?

Who has seen the most kinds of birds in southern Ontario this year? Send your bird listtfor 1959 (January 1 to December 31) to Mr. David K. Powell, 856 Eagle Drive, Burlington. Do it now! The winner of the covetod Ross Thompson Trophy and the award for those 14 years and under (on July 15) will be announced at the January 11th meeting of the senior club.

LIBRARY MEETING A SUCCESS

Fifteen members and non-members greatly enjoyed the talk and display of natural history books presented by Miss Helen Stanworth at the Main Library on the evening of Saturday, December 12th. After examining the many exciting new books on animals, plants and biographies of famous naturalists, and signing out those books of special interest, the members had a treat. Miss Stanworth had a supply of coke and delicious do-nuts to round out a most happy and interesting evening.

TO RATTLESNAKE POINT WITH MR. BASTIN

Many of the Hamilton Junior Naturalists' Club will remember October 12th as the day of the hike to Rattlesnake Point. We started from Dundurn Park on a cold, foggy morning. A few members of our party spied a flock of Canada Geese, but others, arriving later, were not as fortunate.

Our first stop was along the shore of Lake Ontario, in Burlington, where we saw several Great Blue Herons soaring lazily in the clouded sky. One seemed to have cold feet, and landed on the breakwall in the lake, among a group of noisy Herring and Ring-billed Gulls. Out on the lake, one lone White-winged Scoter was seen among a group of Common Goldeneye Ducks. In the shallow waters near the shore were several Yellowlegs and killdeers.

Travelling on, we soon came to our destination,--the foot of Rattlesnake Point. We left the cars behind us and, taking our lunches and other necessary equipment, we made our way slowly to the top of the cliff through the cold, driving rainshowers. When the rain ended, we were able to examine many fossil corals imbedded in the limestone near the top. After cutting through the woods to the cliff face, we deposited our baggage and admired the wide view in three directions. Before long, one of the senior members spied a Turkey Vulture. It was explained to me how one could be quickly identified in flight, especially by its small head. Along with this came Rough-legged, Red-tailed and Sparrow Hawks, prizes for any hawk lover.

Fortunately for our cold feet, the sun decided to show his face, and after a warm lunch, we all lay basking lazily in the sun, watching how Autumn had tinted the distant hills with brown, red and orange, burning like flames in the light of the sun.

As soon as we had no longer cold feet to complain about, we started our journey down the east side of the Point. On our way we saw a Myrtle Warbler and several Black-capped Chickadees. Also seen was that most popular and well-known of all birds, the Goshawk.

Soon after we had started homeward, the sun again shrouded himself in clouds, as if he were sad to see us leave. A cold wind chilled the outside air, the coldness of which we noticed when we stepped out of the warm car at our last stop, the Woodland Cemetery. Here, overlooking the lake, we saw some ducks: Redheads, American Mergansers, Mallards and Blacks. When we finally arrived home, though cold and tired, we all agreed that it had been a very successful hike.

By Nan Coolsma.

MAN, WHAT A DAY!

By Ralph Idema

Well, on December the sixth, a Sunday, we had a little club hike. The Junior Club has one or two every month. Sure enough, it was a good day--we saw a lot of interesting birds. But, sure enough, again it rained all day. This did not dampen our spirits too much, however, and we all were quite cheery when we piled into Mr. Dave Powell's car,--all eight of us. We drove to Forsythe Avenue, where Bohemian Waxwings had been reported a few days earlier. Oh, there were Cedar Waxwings, all right, but no Bohemians. We now started a muddy walk through Westdale Ravine. There were quite a few small land birds and at the University Landing, in fact all along the marsh, Swamp Sparrows were abundant.

Our steps now fell along the path through the Pinery. We noted that Blue Jays were acting up to our left but did not think much of it until suddenly, from the same direction, came the booming of the Pileated Woodpecker. It stopped calling and flew off. Almost immediately, and much to our surprise, a Great Horned Owl flew from its perch next to where the big Woodpecker had been. Just about then, two small birds flew over, high above the trees. They didn't make a sound. I quote from a friend, "Passing-over birds. Weren't they lovely?"

We walked on past Poison Ivy Point and on to Twin Pines Point as a few club members call it. Each of us by now had his turn at slipping on the wet paths. Wet and muddy, we arrived at the point, only to see all the ducks and gulls take off. They were flying high. What was the cause of all this commotion? Then we saw the Bald Eagle, flying low over the marsh. Even though it was cloudy, its white head and tail shone brilliantly. That was a fine ending for our walk through the slippery ravines. We now went back to the car, and on the way made another fruitless try for the evasive Bohemian Waxwings.

Mr. George North now arrived in his car, and after dropping some of the hikers off at the bus stop, we continued to the Hydro Station at Dundas. Here we had lunch and I really shouldn't mention that it was beside the dump. As far as the bird population here was concerned, we saw a number of blackbirds, including Rustys and Cowbirds and also watched four Great Blue Herons.

Mr. Powell now went downtown and the Junior Club hike was officially over. However, four of us went on with Mr. North looking for more adventures. We found one allright,--witnessing the wasteful killing of an immature female King Eider by a black retriever. I will not elaborate too much on this fateful event and will close with a reminder that on a rainy day you often see more birds than on a bright day and dark days are often more eventful.

FUTURE JUNIOR CLUB EVENTS

Meetings

Saturday, January 9 - 7.30 P. M. Y.W.C.A. (Main St. west of James St.)

Tonight we shall plan our program of displays and talks for our show for the senior club on Monday, January 11, 1960. If there is time, we shall have a nature quiz with kodachromes.

Monday, January 11 - 8.00 P. M. MAIN LIBRARY (lower east door)

Come at 7.30 P. M. so that we can have our displays ready for the senior club meeting that begins at 8.00 P. M. Bring your collections of minerals, fossils, shells, insects, leaves, pressed plants, feathers, birds' nests or stuffed birds and mammals. Bring your nature diary, nature scrapbooks, nature stamp collection or your nature drawings and paintings.

Saturday, January 23 - 7.30 P. M., Y.W.C.A. (Room "E").

Professor Les Prince of McMaster University will tell us about Mammals in Ontario, especially those around Hamilton. He will illustrate his talk with study skins. Professor Prince was formerly Mammalogist at the Royal Ontario Museum of Zoology. Be sure to tell your friends about this evening.

HIKES

Junior members may attend hikes of the senior club providing they notify the leader beforehand. (Friday, January 1 - R. N. Lowes, FU. 5-9183) (Sunday, January 10 - George North, JA. 2-6082) and (Sunday January 31, by auto to Niagara Frontier with Mrs. Jeannette McCormack, JA. 2-5887).

Saturday, January 2 - 9.30 A. M. to 3.30 P. M. Bring lunch.

John Miles (JA. 2-6160) will lead a hike to King's Forest Park and Albion Falls. Get off the Delaware-Rosedale bus at Dunbarton and Aberfoyle Streets, where the hike begins. Wear warm clothing and footwear. Remember your lunch.

Sunday, January 24th - 9.30 A. M. with lunch or 1.30 P. M. (same place).

Dr. Robert MacLaren (Ja. 7-1619) will lead an auto and walking hike. The first half will begin at 9.30 A. M. at Main Street and University Avenue (near the Teachers' College) and go to the Dundas dump at the end of Coote's Paradise (Dundas Marsh). After lunch the group will return to Main Street and University Avenue (same location) to pick up the second half hikers at 1.30 P. M. The second half of the hike will go along the lake and end about 4.00 P. M. Dress warmly with good footwear! Parents with cars welcome.

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FOR THE JUNIORS

We anticipate your January 11th contributions to our senior club programme. Also, there is a letter for you that we found in the mail-bag under the flock of Richardson's Owls arriving late in December:

Dear Juniors,

January is a very cold month. It is not very easy for us to find food with all the snow and ice covering the ground. But we must not complain. Mother Nature has many other children to take care of too. But maybe you would make a feeding station for us. Just take any old board, placed high off the ground. Here's the important part,--then put bread crumbs, seeds, suet and carrots on it. You will make us very happy if you do.

Your feathered friends,
Dr. Cardinal
Mr. Woodpecker
Miss Chickadee
Miss Junco
Mrs. Nuthatch.

Editors' Note: I think these birds really mean business. Looks like a formal petition, doesn't it?

NOTEWORTHY BIRD RECORDS

Number of species recorded to December 20, 1959 - 263

Red-necked Grebe	(3)	Nov.22	L	Lake Ontario	Powell, MacLaren, North
Great Blue Heron	(4)	Dec.19		Dundas Hydro Stn.	J. A. N. Dowall
Canada Goose	(70)	Nov.28	L	Hamilton Harbour	John Miles
Brant	(2)	Dec.13		Port Credit	Ralph McCleary
Gadwall	(1)	Dec. 5	L	Lorne Park	Don Perks
Pintail	(1)	Dec.20		Longwood Road	G. Holland, Miles, North
King Eider	(1)	Oct.17	F	Clarkson	Lucie McDougall
	(1)	Oct.28		LaSalle Park	" "
	(1)	Dec. 6		Brant Inn	J. Miles, G. W. North
	(1)	Dec.16		Beach Canal, Lake	G. W. North
Surf Scoter	(1)	Dec. 6	L	Oakville	" "
Sharp-shinned Hawk	(1)	Dec.19		Mount Albion	J. Miles et al.
Golden Eagle	(1)	Sep.24	F	Port Credit	Lucie McDougall, D. R. Gunn
	(1)	Nov.15	L	" "	" " " " "
Bald Eagle	(1)	Dec. 6		Dundas Marsh	D. K. Powell et al.
Marsh Hawk	(1)	Nov.27		Coldwater Creek	R. Curry, J. Olmsted
Osprey	(1)	Nov.15	L	Port Credit	Lucie McDougall
Gyrfalcon	(1)	Oct. 1	✱	" "	Lucie McDougall, D. R. Gunn
	(1)	Oct. 4		" "	Dr. and Mrs. D. R. Gunn
Gray Partridge	(25)	Dec.19		Upper Ottawa & Gago	J. Miles et al.
American Coot	(1)	Dec.16		Burlington Golf Cl.	G. W. North
Red Phalarope	(1)	Nov.29	L	Carroll's Point	Alfred Epp
Parasitic Jaeger	(2)	Nov.12	L	Port Credit	Doris Speirs and Mab Ander-
Glaucous Gull	(1)	Nov.28	F	Dundas Marsh	John Miles, G. W. N. (son
Pileated Woodpecker	(2)	Dec.13		University Landing	Stu Alexander
(North'n)Horned Lark	(5)	Nov.28	F	Aldershot	G. W. North
(Hoyt's) " "	(10)	Nov.28	F	" "	" "
Carolina Wren	(1)	Nov.29		Sulphur Springs	MacLaren, Powell, North
	(1)	Dec. 6		Oakville	Miles, North
Long-b.Marsh Wren	(1)	Nov.26		W. end Dundas Marsh	R. Curry, J. Olmsted
	(2)	Dec.20		" " "	G. Holland, Miles, North
Catbird	(1)	Nov.24		Lorne Park	Irene Goldhamer
Bohemian Waxwing	(2)	Dec. 2	F	Forsythe Ave. N.	George W. North
Myrtle Warbler	(2)	Dec. 5	L	Highway 102	R. Curry, G. North
Palm Warbler	(1)	Nov.29	L	Port Credit	Lucie McDougall
Yellowthroat	(3)	Nov.26		W. end Dundas Marsh	R. Curry, J. Olmsted
Yellow-br. Chat	(1)	Sep.23	L	Port Credit	Lucie McDougall
Baltimore Oriole	(1)	Oct.31	L	Port Credit	Lucie McDougall
Red-wing.Blackbird	(1)	Dec.20		Dundas Dump	G. Holland, Miles, North
Rusty Blackbird	(50)	Dec. 5		" "	G. W. North
	(3)	Dec.20		" "	Holland, Miles, North
Common Grackle	(5)	Dec.20		Rowanwood, Dundas	Mrs. W. R. Shivas
Brown-headed Cowbird	(15)	" 12		Dundas Dump	G. W. North
	(2)	Dec.20		" "	Holland, Miles, North
Vesper Sparrow	(1)	Nov.29	L	Aldershot	D. K. Powell, G. W. North
White-throated Sp.	(6)	Dec.20		Highway 102	Holland, Miles, North

✱ first report of the year; F first of the season; L last of the year

Send reports to George North, 249 Charlton Ave. W., Hamilton, Ont. JA 2-6082.